



CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A reactor for containing a solid catalyst for a heterogeneous gas-phase reaction said reactor being a fluid bed reactor comprising:
 - a grid;
 - more than one inlet pipes for a molecular oxygen-containing gas extending into said reactor;
 - surround means for surrounding a substantial portion of said inlet pipes in said reactor with an inert gas; and
 - means for detecting a change in pressure of said inert gas surrounding said inlet pipes;
 - wherein the surround means are provided with a supply of an inert gas, and further wherein the inert gas surrounding the inlet pipes is sealed.

2. (previously presented) A reactor as claimed in claim 1 in which at least 85% of said pipes in said reactor are surrounded by said surround means.

3-4 (cancelled).

5. (previously presented) A reactor as claimed in claim 1 in which said surround means comprises one or more outer pipes surrounding a substantial portion of said inlet pipes for molecular oxygen containing gas in said reactor .

6. (previously presented) A reactor as claimed in claim 5 which further comprises means for allowing for differential expansion of said inlet pipes and said surround means.

7-9. (canceled)

10. (previously presented) A reactor as claimed in claim 1 in which each of said inlet pipes further has means for suppressing ingress to the inlet pipe from the reactor of flame, reagents, products, catalyst or combinations thereof.

11. (original) A reactor as claimed in claim 10 in which said ingress suppression means comprises means for providing molecular oxygen-containing gas in said inlet pipe at a higher pressure than the pressure in said reactor.

12. (original) A reactor as claimed in claim 10 in which said ingress suppression means comprises a restriction to the outlet of said inlet pipe.

13. (original) A reactor as claimed in claim 12 in which said restriction comprises one or more orifices.

14. (original) A reactor as claimed in claim 12 in which said restriction is located at a distance from the outlet of said inlet pipe in the reactor such that a potential detonation is avoided.

15. (previously presented) A reactor as claimed in claim 12 in which said restriction is located 4 to 5 pipe diameters from the end of the inlet pipe.

16. (previously presented) A reactor as claimed in claim 12 in which said restriction is located within a region of said inlet pipe surrounded by said surround means.

17. (cancelled)

18. (previously presented) A reactor as claimed in claim 1 in which the distance between inlet pipes is significantly in excess of potential flame length.

19. (previously presented) A reactor as claimed in claim 1 in which said molecular oxygen-containing gas for said inlet pipes is provided from a common end box having an inventory.

20. (previously presented) A reactor as claimed in claim 1 in which each of said inlet pipes is operably connected to a supply of molecular oxygen-containing gas

provided through one or more flow restriction means which restrict the flow of molecular oxygen-containing gas to the inlet pipe.

21-46. (cancelled)

47. (currently amended) A reactor for containing a solid catalyst for a

heterogeneous gas-phase reaction said reactor being a fluid bed reactor comprising:

a grid;

more than one inlet pipes for a molecular oxygen-containing gas extending into said reactor;

surround means for surrounding a substantial portion of said inlet pipes in said reactor with an inert gas; and

means for detecting a change in pressure of said inert gas surrounding said inlet pipes;

wherein the surround means is provided with a limited supply of inert gas sufficient to replace minor leaks.

48. (previously presented) A reactor as claimed in claim 47 in which at least 85% of the said pipes in said reactor is surrounded by said surround means.

49-50 (cancelled).

51. (previously presented) A reactor as claimed in claim 47 in which said surround means comprises one or more outer pipes surrounding a substantial portion of said inlet pipes for molecular oxygen containing gas in said reactor.

52. (previously presented) A reactor as claimed in claim 51 which further comprises means for allowing for differential expansion of said inlet pipes and said surround means.

53. (canceled)

54. (previously presented) A reactor as claimed in claim 47 in which each of said inlet pipes further has means for suppressing ingress to the inlet pipe from the reactor of flame, reagents, products, catalyst or combinations thereof.

55. (previously presented) A reactor as claimed in claim 54 in which said ingress suppression means comprises means for providing molecular oxygen-containing gas in said inlet pipe at a higher pressure than the pressure in said reactor.

56. (previously presented) A reactor as claimed in claim 54 in which said ingress suppression means comprises a restriction to the outlet of said inlet pipe.

57. (previously presented) A reactor as claimed in claim 56 in which said restriction comprises one or more orifices.

58. (previously presented) A reactor as claimed in claim 56 in which said restriction is located at a distance from the outlet of said inlet pipe in the reactor such that a potential detonation is avoided.

59. (previously presented) A reactor as claimed in claim 56 in which said restriction is located 4 to 5 pipe diameters from the end of the inlet pipe.

60. (previously presented) A reactor as claimed in claim 56 in which said restriction is located within the region of said inlet pipe surrounded by said surround means.

61. (cancelled)

62. (previously presented) A reactor as claimed in claim 47 in which the distance between inlets is significantly in excess of the potential flame length.

63. (previously presented) A reactor as claimed in claim 47 in which said molecular oxygen-containing gas for said inlet pipes is provided from a common end box having an inventory.

64. (previously presented) A reactor as claimed in claim 47 in which each of said inlet pipes is operably connected to a supply of molecular oxygen-containing gas

provided through one or more flow restriction means which restrict the flow of molecular oxygen-containing gas to the inlet pipe.

65. (cancelled)